

compound differs from the expression of the LIG-46 gene in the absence of the test compound.

41. The method of claim 40 wherein LIG-46 expression is measured by measuring mRNA.

42. The method of claim 40 wherein LIG-46 expression is measured by measuring protein.

43. The method of claim 40 wherein LIG-46 expression is measured in the presence of the test compound and leptin.

44. The method of claim 40 wherein the cell is a cultured cell.

45. The method of claim 40 wherein the cell is a neuronal cell.

46. The method of claim 40 wherein the compound increases LIG46 expression.

47. The method of claim 40 wherein the compound decreases LIG46 expression.

48. A method for screening compounds to identify a candidate compound for altering food intake by a mammal, the method comprising:

(a) measuring the expression of an LIG-46 gene in cells obtained from a non-human mammal treated with a test compound, the LIG-46 gene encoding a polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO:2 and SEQ ID NO:14;

(b) comparing the expression of the LIG-46 gene in the cells obtained from the non-human mammal exposed to the test compound to the expression of the LIG-46 gene in a non-human mammal not exposed to the test compound, and;

(c) identifying the test compound as a candidate compound for altering food intake by a mammal if the expression of the LIG-46 gene in cells obtained from a non-human mammal treated with the test compound differs from the expression of the LIG-46 gene in cells obtained from the non-human mammal not exposed to the test compound.

49. The method of claim 48 wherein LIG-46 expression is measured by measuring mRNA.

50. The method of claim 48 wherein LIG-46 expression is measured by measuring protein.

51. The method of claim 48 wherein the non-human mammal exposed to the test compound is exposed to exogenous leptin.

52. The method of claim 48 wherein the non-human mammal does not express leptin.

53. The method of claim 48 wherein the non-human mammal is a mouse.

54. The method of claim 53 wherein the mouse is an ob/ob mouse.

55. A method for screening compounds to identify a compound for altering food intake by a mammal, the method comprising:

(a) providing a cell containing an LIG-46 gene, the LIG-46 gene encoding a polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO:2 and SEQ ID NO:14;

- (b) measuring the expression of the LIG-46 gene in the presence of a test compound;
- (c) comparing the expression of the LIG-46 gene in the presence of the test compound to the expression of the LIG-46 gene in the absence of the test compound;
- (d) identifying the test compound as a candidate compound for altering food intake by a mammal if the expression of the LIG-46 gene in the presence of the test compound differs from the expression of the LIG-46 gene in the absence of the test compound;
- (e) administering the identified candidate compound to a non-human test mammal;
- (f) monitoring the effect of the candidate compound on the feeding behavior of the non-human test mammal; and
- (g) identifying the candidate compound if as a compound for altering the feeding behavior of a mammal if the candidate compound alters the feeding behavior of the non-human test mammal.

56. The method of claim 55 wherein LIG-46 expression is measured by measuring mRNA.

57. The method of claim 55 wherein LIG-46 expression is measured by measuring protein.

58. The method of claim 55 wherein LIG-46 expression is measured in the presence of the test compound and leptin.

59. The method of claim 55 wherein the cell is a cultured cell.

60. The method of claim 55 wherein the cell is a neuronal cell.

61. The method of claim 55 wherein the non-human mammal exposed to the test compound is exposed to exogenous leptin.

62. The method of claim 55 wherein the non-human mammal does not express leptin.

63. The method of claim 55 wherein the non-human mammal is a mouse.

64. The method of claim 63 wherein the mouse is an ob/ob mouse.

65. The method of claim 63 wherein the mouse is a transgenic mouse expressing an LIG-46 gene encoding the amino acid sequence of SEQ ID NO:14.

66. The method of claim 55 wherein the non-human mammal exposed to the test compound is fed prior to administering the candidate compound.

67. The method of claim 55 wherein the non-human mammal exposed to the test compound is starved prior to administering the candidate compound.

68. The method of claim 55 wherein the test compound increases LIG46 expression.

69. The method of claim 55 wherein the test compound decreases LIG46 expression.

70. The method of any of claims 40, 48 and 55 further comprising measuring the expression of LIG-46 is the absence of the test compound.--